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EXAMINER CAMPOS, JR, JUAN J				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/595,342

**Applicant(s)**

HOUE, TERJE H.

**Examiner**

Juan J. Campos

**Art Unit**

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 30-56 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 30-56 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 04/11/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required.
2. The specification as originally filed fails to provide support for a first number of cylindrical segments, an inner cylindrical center portion, a second larger number of cylindrical segments and an outer cylindrical center portion. The specification as originally filed only supports one plurality of cylindrical segments 30 (see pages 6-7 line 23 to line 3), not a first number of cylindrical segments, an inner cylindrical center portion, a second larger number of cylindrical segments and an outer cylindrical center portion.

### *Drawings*

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, an inner center cylindrical portion and an outer center cylindrical portion (claims 41 and 44) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 41, 44, 30-32, 38-40, and 53-55** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

6. The specification, drawings and claims do not disclose how the cylindrical segments 30 can be connected with the inner notches 10 and outer notches 12 (with outer notches 12 having a greater radius, see page 6 lines 6-13).
7. From figure 4, the cylindrical segment 30 appears to have a curvature and hooks 34 which have the same curvature as the cylindrical segment. If the cylindrical segments 30 and hooks 34 have a curvature for the notches 10 of one diameter (for the inner cylindrical portion for example), these cylindrical segments 30 and hooks 34 would not be able to fit into the notches 12 (of the outer cylindrical portion and of different diameter) because the notches 12 would have a different curvature than the cylindrical segments and hook. This issue with the curvature of the cylindrical segments 30 and hooks 34 also occurs if the segments and hooks are to fit the curvature of notches 12, as these segments and hooks would not be able to fit into the notches 10, as notches 10 have a different curvature than curvature of notches 12.
8. Further, specification, drawings and claims do not disclose how the cylindrical segments 30 (for the inner cylindrical center portion or the outer cylindrical center portion) can be connected with the dovetail connections 32 (as discussed in page 6 lines 23-25).
9. Similar to the argument above, If the cylindrical segments 30 and dovetail connection 32 have a curvature of one diameter (for the inner cylindrical portion for example), the dovetail connections of a cylindrical segment would not be able to fit into the other dovetail connections of the other cylindrical segments when the one attempts

to connect the cylindrical segments at another larger diameter (such as the diameter of notches 12) because the curvature of the larger diameter would be different.

**10.** This issue with the curvature of the cylindrical segments 30 and dovetail connections also occurs if the segments and hooks are to fit the curvature of notches 12 (of larger diameter), as the dovetail connections of a cylindrical segment would not be able to fit the other dovetail connections of the other cylindrical segments because the curvature would be different. This connection issue also occurs with screw-bolt-joint connections.

**11. Claims 41, 42, 44, 30-32, 38-40, and 53-56** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

**12. Regarding claims 41, 44, 30-32, 38-40, and 53-55,** From figure 4, the cylindrical segment 30 appears to have a curvature and hooks 34 which have the same curvature as the cylindrical segment. If the cylindrical segments 30 and hooks 34 have a curvature for the notches 10 of one diameter (for the inner cylindrical portion for example), these cylindrical segments 30 and hooks 34 would not be able to fit into the notches 12 (of the outer cylindrical portion and of different diameter) because the notches 12 would have a different curvature than the cylindrical segments and hook. This issue with the curvature of the cylindrical segments 30 and hooks 34 also occurs if

the segments and hooks are to fit the curvature of notches 12, as these segments and hooks would not be able to fit into the notches 10, as notches 10 have a different curvature than curvature of notches 12.

**13.** Further, specification, drawings and claims do not disclose how the cylindrical segments 30 (for the inner cylindrical center portion or the outer cylindrical center portion) can be connected with the dovetail connections 32 (as discussed in page 6 lines 23-25.

**14.** Similar to the argument above, If the cylindrical segments 30 and dovetail connection 32 have a curvature of one diameter (for the inner cylindrical portion for example), the dovetail connections of a cylindrical segment would not be able to fit into the other dovetail connections of the other cylindrical segments when the one attempts to connect the cylindrical segments at another larger diameter (such as the diameter of notches 12) because the curvature of the larger diameter would be different.

**15.** This issue with the curvature of the cylindrical segments 30 and dovetail connections also occurs if the segments and hooks are to fit the curvature of notches 12 (of larger diameter), as the dovetail connections of a cylindrical segment would not be able to fit the other dovetail connections of the other cylindrical segments because the curvature would be different. This connection issue also occurs with screw-bolt-joint connections.

**16.** Thus, the examiner does not consider the claimed subject matter of connecting the cylindrical to the opposing end flanges to form an inner or outer cylindrical center portion, connecting the hooks of the inner or outer cylindrical portion to the opposing

end flanges with fastening hooks, and connecting the cylindrical segments with dovetail connections or screw-bolt-joint connections to be properly described in the specification as filed. Further, the examiner considers the "an inner cylindrical center portion" and "an outer cylindrical portion" as claimed in claims 41 and 44 to be new matter, since not mention of the matter was previous made.

**17. Regarding claims 42 and 56,** these claims claim "each cylindrical segment in the plurality has a substantially similar shape and substantially similar size". However, the specification as originally filed does not explicitly disclose the cylindrical segments of similar shape and/or size. Thus, the examiner does not consider this claimed subject matter to be properly described in the specification as filed.

**18.** The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**19. Claims 32, 38-40 and 53-55,** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**20. Regarding claims 32, 40 and 55,** these claims claim "wherein the first and second numbers of cylindrical segments are connectable to the opposing end flanges by fastening hooks". This claim is unclear because it is not clear how the hooks of the cylindrical segments of the inner and outer center portions mate with the notches of the inner pitch circles and the notches of the outer pitch circle, as the curvature of these notches are different.



**21. Regarding claims 38-39 and 53-54,** these claims are not clear as to how the cylindrical segments would be connected by dovetail connections or screw-bolt-joint connections, as the curvature of a connection (either dovetail or screw-bolt-joint) would be different for each diameter of inner and outer cylindrical center portions.

***Claim Rejections - 35 USC § 103***

**22.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**23. Claims 41-46, 30-31 and 56 rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey (EPO Patent Application 0491400 A1).**

**24. Regarding claim 41,** Harvey discloses a collapsible metal reel comprising a pair of opposing end flanges (11, 12 and 51, see figures 1 and 5), each opposing end flange comprising a flange sector (51 for each of 11 and 12, see column 5 lines 1-6) and a flange segment (11 and 12) that is separably connected to the flange sector, and a plurality of cylindrical segments (24 or 23), wherein the pair of opposing end flanges are separably connectable to the a first number of cylindrical segments (see figure 2) from the plurality that are separably connected together in series to form an inner cylindrical center portion (such as the portion made by 24, see figure 2). Harvey further discloses the flanges connectable to a second number of cylindrical segments from the plurality that are separably connected together in series to form an outer cylindrical center portion (such as the portion made by 23, see figure 2) having a larger diameter than the

inner cylindrical center portion. Harvey does not explicitly disclose wherein the pair of opposing end flanges are separably connectable to a second, larger number of cylindrical segments to form an outer cylindrical center portion having a larger diameter than the inner cylindrical center portion.

**25.** At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the reel of Harvey by providing the reel with a larger number of cylindrical segments for an outer cylindrical center portion, as a matter of engineering choice, to reduce the size of the cylindrical segments for compactness in transportation, and to improve rigidity of the cylindrical segments.

**26. Regarding claim 42,** the device of Harvey is mentioned above. Harvey does not explicitly disclose each cylindrical segment in the plurality having a substantially similar shape and a substantially similar size.

**27.** At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the reel of Harvey by providing the cylindrical segments of substantially similar shape and substantially similar size, as a matter of engineering choice, to provide uniform load (of the wound material) to each of the segments of the inner and/or outer cylindrical center portions, to simplify the assembly of the reel, and to simplify manufacturing of the cylindrical segments of the reel.

**28. Regarding claim 43,** the device of Harvey is mentioned above. Harvey further shows that each cylinder segment is directly connectable to the pair of opposing end flanges (see figures 1-2).

**29. Regarding claim 44,** Harvey discloses a collapsible metal reel comprising a pair of opposing end flanges (11, 12 and 51, see figures 1 and 5), each opposing end flange comprising a flange sector (51 for each of 11 and 12, see column 5 lines 1-6) and a flange segment (11 and 12) that is separably connected to the flange sector, and a plurality of cylindrical segments (24 or 23), wherein the pair of opposing end flanges are separably and directly connectable (see figures 1-2) to the a first number of cylindrical segments (see figure 2) from the plurality that are separably connected together in series to form an inner cylindrical center portion (such as the portion made by 24, see figure 2). Harvey further discloses the flanges connectable to a second number of cylindrical segments from the plurality that are separably connected together in series to form an outer cylindrical center portion (such as the portion made by 23, see figure 2) having a larger diameter than the inner cylindrical center portion. Harvey does not explicitly disclose wherein the pair of opposing end flanges are separably connectable to a second, larger number of cylindrical segments to form an outer cylindrical center portion having a larger diameter than the inner cylindrical center portion.

**30.** At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the reel of Harvey by providing the reel with a larger number of cylindrical segments for an outer cylindrical center portion, as a matter of engineering choice, to reduce the size of the cylindrical segments for compactness in transportation, and to improve rigidity of the cylindrical segments.

**31. Regarding claim 45,** Harvey further shows wherein each opposing end flange has an inner face that is capable of being configured to mate with and separably

connect to an end of the inner cylindrical center portion and an end of the outer cylindrical center portion (see figures 1-2 and 5).

**32. Regarding claim 46,** Harvey further shows wherein the inner face of each opposing end flange has a first plurality of notches (see holes 53 of 11, 12 and 51 closest to 16 or 47 in figures 1 and 4-5, column 3 lines 39-42, and column 5 lines 17-21) spaced apart along an inner pitch circle (see figures 1-2 and 4-5) about a central axis (considered the axis of 16 or 47) of the respective end flange and a second plurality of notches (see holes 53 of 11, 12 and 51 farthest from 16 or 47 in figures 1 and 4-5, column 3 lines 39-42, and column 5 lines 17-21) distributed along an outer pitch circle (see figures 1-2 and 4-5) about the central axis (considered the axis of 16 or 47) of the respective end flange, wherein the outer pitch circle has a radius greater than the inner pitch circle (see figures 1-2 and 4-5).

**33. Regarding claim 30,** Harvey further shows wherein each opposing end flange has an inner face that is capable of being configured to mate with and separably connect to an end of the inner cylindrical center portion and an end of the outer cylindrical center portion (see figures 1-2 and 5).

**34. Regarding claim 31,** Harvey further shows wherein the inner face of each opposing end flange has a first plurality of notches (see holes 53 of 11, 12 and 51 closest to 16 or 47 in figures 1 and 4-5, column 3 lines 39-42, and column 5 lines 17-21) spaced apart along an inner pitch circle (see figures 1-2 and 4-5) about a central axis (considered the axis of 16 or 47) of the respective end flange and a second plurality of notches (see holes 53 of 11, 12 and 51 farthest from 16 or 47 in figures 1 and 4-5,

column 3 lines 39-42, and column 5 lines 17-21) distributed along an outer pitch circle (see figures 1-2 and 4-5) about the central axis (considered the axis of 16 or 47) of the respective end flange, wherein the outer pitch circle has a radius greater than the inner pitch circle (see figures 1-2 and 4-5).

**35. Regarding claim 56**, the device of Harvey is mentioned above. Harvey does not explicitly disclose each cylindrical segment in the plurality having a substantially similar shape and a substantially similar size.

**36.** At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the reel of Harvey by providing the cylindrical segments of substantially similar shape and substantially similar size, as a matter of engineering choice, to provide uniform load (of the wound material) to each of the segments of the inner and/or outer cylindrical center portions, to simplify the assembly of the reel, and to simplify manufacturing of the cylindrical segments of the reel.

***Claim Rejections - 35 USC § 103***

**37.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**38. Claims 32, 33, 40, 47-48 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey (EPO Patent Application 0491400 A1) in view of Faulkner (US Patent 5,474,254).**

**39. Regarding claim 32**, the device of Harvey is discussed above. Harvey does not explicitly disclose wherein each end of the inner cylindrical center portion comprises fastening hooks configured to mate with notches in the inner pitch circle and wherein each end of the outer cylindrical center portion comprises fastening hooks configured to mate with notches in the outer pitch circle. Faulkner discloses a spool and method of making same that teaches of a cylinder 20 (or cylindrical center portion) that uses fastening hooks 26 to connect the cylinder to notches 37 (see figure 1 and column 2 lines 13-34) of flanges 30 to secure the flanges to the cylinder. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by modifying substituting hooks for the pins 55 of Harvey so that the inner and outer cylindrical center portions of Harvey are connected by fastening hooks, to follow the teaching of Faulkner of using fastening hooks to secure the flanges to the cylinder (or hub), and to provide fastening means that prevent slippage of the center cylindrical portions from the flanges.

**40. Regarding claim 33**, Harvey further shows wherein both the flange sector and the flange segment are capable of being connectable to the inner cylindrical center portion when each end of the inner cylindrical center portion is connectable to the opposing end flanges and wherein both the flange sector and the flange segment are connectable to the outer cylindrical center portion when each end of the outer cylindrical center portion is connectable to the opposing end flanges (see figures 1-2 and 5).

**41. Regarding claim 40**, the device of Harvey is discussed above. Harvey further shows that the first and second numbers of cylindrical segments are connectable to the

flanges (see figures 1-2 and 5). Harvey does not explicitly disclose wherein the first and second pluralities of cylinder segments are connectable to the opposing end flanges by fastening hooks. Faulkner discloses a spool and method of making same that teaches of a cylinder 20 (or cylindrical center portion) that uses fastening hooks 26 to connect the cylinder to notches 37 (see figure 1 and column 2 lines 13-34) of flanges 30 to secure the flanges to the cylinder. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by modifying substituting hooks for the pins 55 of Harvey so that the inner and outer cylindrical center portions of Harvey are connected by fastening hooks, to follow the teaching of Faulkner of using fastening hooks to secure the flanges to the cylinder (or hub), and to provide fastening means that prevent slippage of the center cylindrical portions from the flanges.

**42. Regarding claim 47**, the device of Harvey is discussed above. Harvey does not explicitly disclose wherein each end of the inner cylindrical center portion comprises fastening hooks configured to mate with notches in the inner pitch circle and wherein each end of the outer cylindrical center portion comprises fastening hooks configured to mate with notches in the outer pitch circle. Faulkner discloses a spool and method of making same that teaches of a cylinder 20 (or cylindrical center portion) that uses fastening hooks 26 to connect the cylinder to notches 37 (see figure 1 and column 2 lines 13-34) of flanges 30 to secure the flanges to the cylinder. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by modifying substituting hooks for the pins 55 of Harvey so that

the inner and outer cylindrical center portions of Harvey are connected by fastening hooks, to follow the teaching of Faulkner of using fastening hooks to secure the flanges to the cylinder (or hub), and to provide fastening means that prevent slippage of the center cylindrical portions from the flanges.

**43. Regarding claim 48**, Harvey further shows wherein both the flange sector and the flange segment are capable of being connectable to the inner cylindrical center portion when each end of the inner cylindrical center portion is connectable to the opposing end flanges and wherein both the flange sector and the flange segment are connectable to the outer cylindrical center portion when each end of the outer cylindrical center portion is connectable to the opposing end flanges (see figures 1-2 and 5).

**44. Regarding claim 55**, the device of Harvey is discussed above. Harvey further shows that the first and second numbers of cylindrical segments are connectable to the flanges (see figures 1-2 and 5). Harvey does not explicitly disclose wherein the first and second pluralities of cylinder segments are connectable to the opposing end flanges by fastening hooks. Faulkner discloses a spool and method of making same that teaches of a cylinder 20 (or cylindrical center portion) that uses fastening hooks 26 to connect the cylinder to notches 37 (see figure 1 and column 2 lines 13-34) of flanges 30 to secure the flanges to the cylinder. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by modifying substituting hooks for the pins 55 of Harvey so that the inner and outer cylindrical center portions of Harvey are connected by fastening hooks, to follow the teaching of Faulkner of using fastening hooks to secure the flanges to the cylinder (or



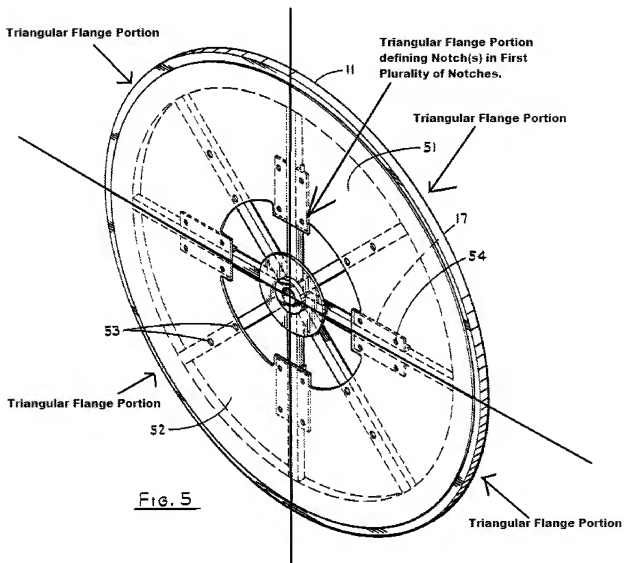
hub), and to provide fastening means that prevent slippage of the center cylindrical portions from the flanges.

**45. Claims 34-37 and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey (EPO Patent Application 0491400 A1) in view of Faulkner (US Patent 5,474,254) as applied to claims 32, 33, 40, 47-48 and 55 above, and further in view of Salloum (US Patent 5,004,179).**

**46. Regarding claim 34,** the device of Harvey as modified by Faulkner is discussed above. Harvey does not explicitly disclose wherein the flange sector and the flange segment are connected together by a splice connection. Salloum discloses a molded sectional reel that teaches of a flange sector (see uppermost 55 in figure 8) and flange segment (see lowermost 55 in figure 8) connected to together in a splice connection (56 and 57, see figures 8 and columns 3-4 line 62 to line 7) to connect parts of the flange together. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by providing a splice connection to the flange sector(s) and flange segment(s) of Harvey so that those parts of the flanges are connected together by a splice connection, to follow the teaching of Salloum of using a splice connect to connect parts of the flange together, and to provide quick means of connecting parts of the flange together.

**47. Regarding claim 35,** Harvey further shows wherein each flange sector 51 is capable of comprising a series of triangular flange portions (see column 5 lines 7-12.

figure 5 and figure below), the triangular flange portions defining notches in the first plurality of notches (see figure 5 and figure below).

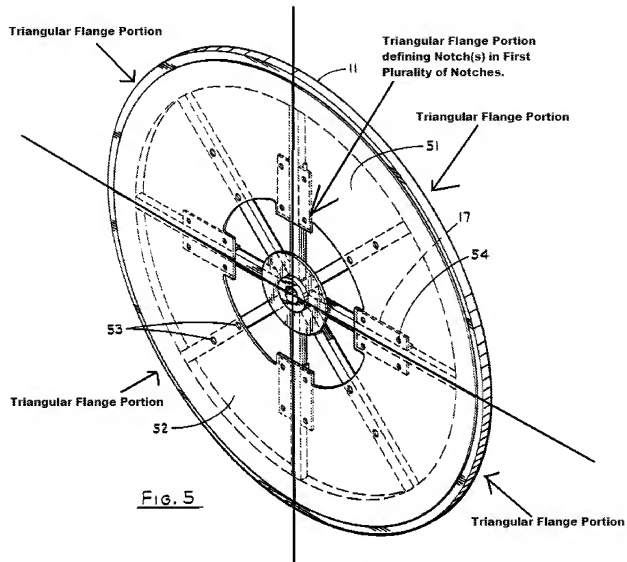


48. Regarding claim 36, Harvey further shows wherein each flange sector 51 defines part of a central portion of a respective end flange that defines an aperture in the end flange (see aperture created between 11 and 51 in figure 5).

**49. Regarding claim 37,** Harvey further shows wherein the flange segment (11 and 12, also see figure 5) is capable of defining a rolling surface (see figure 5) and defines notches in the second plurality of notches (see holes 53 of 11 and 12 farthest from 16 or 47 in figures 1 and 4-5, column 3 lines 39-42, and column 5 lines 17-21).

**50. Regarding claim 49,** the device of Harvey as modified by Faulkner is discussed above. Harvey does not explicitly disclose wherein the flange sector and the flange segment are connected together by a splice connection. Salloum discloses a molded sectional reel that teaches of a flange sector (see uppermost 55 in figure 8) and flange segment (see lowermost 55 in figure 8) connected to together in a splice connection (56 and 57, see figures 8 and columns 3-4 line 62 to line 7) to connect parts of the flange together. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by providing a splice connection to the flange sector(s) and flange segment(s) of Harvey so that those parts of the flanges are connected together by a splice connection, to follow the teaching of Salloum of using a splice connect to connect parts of the flange together, and to provide quick means of connecting parts of the flange together.

**51. Regarding claim 50,** Harvey further shows wherein each flange sector 51 is capable of comprising a series of triangular flange portions (see column 5 lines 7-12. figure 5 and figure below), the triangular flange portions defining notches in the first plurality of notches (see figure 5 and figure below).



52. Regarding claim 51, Harvey further shows wherein each flange sector 51 defines part of a central portion of a respective end flange that defines an aperture in the end flange (see aperture created between 11 and 51 in figure 5).

53. Regarding claim 52, Harvey further shows wherein the flange segment (11 and 12, also see figure 5) is capable of defining a rolling surface (see figure 5) and defines

notches in the second plurality of notches (see holes 53 of 11 and 12 farthest from 16 or 47 in figures 1 and 4-5, column 3 lines 39-42, and column 5 lines 17-21).

**54. Claim 38 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey (EPO Patent Application 0491400 A1) in view of Dobson (US Patent 819,866).**

**55. Regarding claim 38**, the device of Harvey is discussed above. Harvey does not explicitly disclose wherein the wherein the first and second numbers of cylinder segments are connected by dovetail connections. Dobson shows a sheet-metal cylinder segment (see figure 5, considered a cylinder segment by the examiner) that teaches a series of teeth (a) and notches (b) to connect the sheet-metal cylindrical segment ends together, see figure 5. The teeth and notches shown by Dobson are considered dovetail connections by the examiner. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by providing dovetail connections for the inner and outer cylindrical center portions so that the portions are connectable by dovetail connections, to follow the teaching of Dobson of using Dovetail connections to connect ends of a cylindrical segment, and to provide means of connecting the cylindrical center portions of Harvey directly to each other.

**56. Regarding claim 53**, the device of Harvey is discussed above. Harvey does not explicitly disclose wherein the wherein the first and second numbers of cylinder

segments are connected by dovetail connections. Dobson shows a sheet-metal cylinder segment (see figure 5, considered a cylinder segment by the examiner) that teaches a series of teeth (a) and notches (b) to connect the sheet-metal cylindrical segment ends together, see figure 5. The teeth and notches shown by Dobson are considered dovetail connections by the examiner. At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by providing dovetail connections for the inner and outer cylindrical center portions so that the portions are connectable by dovetail connections, to follow the teaching of Dobson of using Dovetail connections to connect ends of a cylindrical segment, and to provide means of connecting the cylindrical center portions of Harvey directly to each other.

**57. Claims 39 and 54 rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey (EPO Patent Application 0491400 A1) in view of Campbell (US Patent 3,940,085).**

**58. Regarding claim 39,** the device of Harvey is discussed above. Harvey does not explicitly disclose wherein the first and second numbers of cylinder segments are interconnected, respectively, by screw-bolt- joints. Campbell discloses a collapsible reel that teaches of cylindrical segments 12 connected together by a pair of bolts 32 and holes 34 (considered screw-bolt-joints, see figure 2). At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by providing screw-bolt-joints for the inner and outer cylindrical center portions

of Harvey so that cylindrical segments are connected by screw-bolt-joints, to follow the teaching of Campbell of using screw-bolt-joints to connect cylindrical segments (or inner and outer cylindrical center portions) together, and to provide means of connecting the cylindrical center portions of Harvey directly to each other.

**59. Regarding claim 54**, the device of Harvey is discussed above. Harvey does not explicitly disclose wherein the first and second numbers of cylinder segments are interconnected, respectively, by screw-bolt- joints. Campbell discloses a collapsible reel that teaches of cylindrical segments 12 connected together by a pair of bolts 32 and holes 34 (considered screw-bolt-joints, see figure 2). At the time of the invention, it would have been obvious to a person of ordinary skill in this art to modify the device of Harvey by providing screw-bolt-joints for the inner and outer cylindrical center portions of Harvey so that cylindrical segments are connected by screw-bolt-joints, to follow the teaching of Campbell of using screw-bolt-joints to connect cylindrical segments (or inner and outer cylindrical center portions) together, and to provide means of connecting the cylindrical center portions of Harvey directly to each other.

### ***Response to Arguments***

**53.** Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

**54.** Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan J. Campos whose telephone number is (571) 270-5229. The examiner can normally be reached on 9am-6pm (Monday-Thursday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen can be reached on (571) 272-6952. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Q. Nguyen/  
Supervisory Patent Examiner, Art Unit 3654

/JJC/